

**DOMINION ENERGY SOUTH CAROLINA, INC.
SOUTH CAROLINA COASTAL CONSERVATION LEAGUE AND
SOUTHERN ALLIANCE FOR CLEAN ENERGY
SECOND DATA REQUEST
DOCKET NO. 2021-88-E**

REQUEST 2-9:

Please provide all underlying data and analysis, with formulas intact, for the ELCC calculation.

RESPONSE 2-9:

The ELCC is calculated using the attached SAS program "ELCCb.sas.txt," which requires 3 datasets/tables for input: DSLOLP, COMPSOLAR and ERC2019.

Descriptions of the 3 tables:

Attachment "COMPSOLAR.xlsx" is a year of solar output measured daily in 96 15-minute intervals. This data was derived from the total solar output from 7 utility-scale solar installations, scaled to 1,000 MW. These 96 daily measurements are in columns RKW1-RKW96, corresponding to the 96 15-minute intervals, starting at 00:15 and ending at 24:00.

Attachment "ERC2019.xlsx" is the system load and weather dataset. It has the hourly system load along with various weather-related measurements (cooling and heating degree day values, day of the week (DOW), etc). Only day, hour and system load (called DAY, HR and LOAD in the dataset) were used in calculating ELCC.

Attachment "CONFIDENTIAL DSLOLP.xlsx" is the yearly forced outage rate, by generating unit, for the years 2010 thru 2017. UNIT is the name of the generating unit, SCAP and WCAP are the unit's summer and winter capacity. EFOR (Expected Forced Outage Rate) is the average forced outage rate for years 2010-2017. This confidential information is being provided pursuant to the Confidentiality Agreement executed between DESC and CCL and SACE dated June 10, 2021.

There are multiple steps in the ELCC calculation using the SAS program "ELCCb.sas.txt." In Step 1 the LOLH index is calculated indicating the hours per year of expected capacity shortfall. In Step 2 the reliability impact of adding another increment of solar is calculated, which is observed by the change to the LOLH index. Typically, the LOLH index decreases indicating an increase in reliability. The goal of Step 3 is to determine the point at which the LOLH index returns to the base setting, and this is estimated by either increasing the system loads or equivalently decreasing the system capacity. Since there are 8,760 hours of system loads, it is easier to simply decrease the system capacity, which is what is done here. Therefore, the ELCC capacity value of the incremental solar has a firm

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capacity equal to the system capacity value necessary to return the LOLH value back to the initial value. This is because the two changes to the system produce equal changes in system reliability as measured by the LOLH index.

* Attached tables, including those with confidential information, omitted from this Exhibit